Stauffer INTER-OFFICE CORRESPONDENCE Western Research

Westport — R. G. Campbell — 1-23-73

E. C. Galloway — Montrose Spent Acid

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Max Sobelman's memo of 1/3/73 on the above subject suggests a laboratory study on the burning of spent acid. The purpose of the study would be to determine the conditions necessary to remove hydrochloric acid mist from the SO_2 gas stream generated. Your memo of 1/19/73 asks about the content and cost of such a study.

As discussed with you on 1/22/73, I will be meeting with Sobelman, Ben Rothberg, Jack Edwards, Jack Reynolds, and Carl Stromberg at Torrance on February 15 to discuss Montrose's spent acid problem in depth.

At this time, no one in Montrose or in Stauffer on the West Coast, as far as I am aware, is giving serious consideration to any approach other than

- continued dumping of the spent acid
- burning the spent acid, without further treatment, at Dominguez for SO_2 recovery.

A considerable amount of the Montrose spent acid has been burned in the past at Dominguez. Some of the equipment installed (e.g. lead electrostatic precipitators) was corroded by the HCl content of the combustion gases. Engineering-West appears confident that they can modify the Dominguez plant (e.g. install a plastic electrostatic precipitator) so that the Montrose acid can be handled successfully.

I will issue a call report on the February 15 meeting in which the need for any laboratory development work will be discussed.

R. G. Campbell

RGC/lh

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INTER-OFFICE CORRESPONDENCE

Houston

Houston Office — E. G. Lang — 5/9/75

J. L. Vestal — Montrose Spent Acid Disposal Study — REVISED: 8/29/75

W. Kanat - Western Engineering
J. Reynolds - Western Engineering
A. Blackwell - Westport Office
G. R. Bowland - San Francisco Office
J. Edwards - San Francisco Office
R. M. Manle, Jr. - Dominguez Plant
J. S. Coglaiti - Martinez Plant
L. Post/R. Ayen - Eastern Research
R. C. Holt - Dobbs Ferry Engineering
T. E. Sikora - Western Engineering

Montrose Chemical Company is currently disposing of their spent acid at a Class I dump at West Covina, California - this may be cutoff at any time.

Because of the very high chloride (2%) level in the spent acid, past attempts in regeneration at Dominguez were unsuccessful. In today's situation, the acid is not suitable for fertilizer; considerable research at Dobbs Ferry did not reveal any way to remove the chloride or other impurities.

A study has been made of the costs of modifying either the Dominguez or Martinez plants so that the spent can be decomposed. The capital and tolling costs for 14 cases studied are summarized in the "Summary" immediately following. Risks and liquid waste disposal evaluations are included. The remainder of the study is attached.

Plant tests have been conducted at Dominguez, burning Montrose spent, and at Houston, Sean. 1, burning GAF (containing 0.5% chloride). Results, anticipated shortly, should define degree of risks.

The attached summary indicates that the first choice would be to modify Unit No. 1, Dominguez, if this is feasible, based on test results, or else to add a separate sludge train at Dominguez.

E. G. Lang

EGL/ajj
attachments

ORIGINAL

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MONTROSE SPENT ACID -- DISPOSAL STUDY

SUMMARY

CASE	I	II	IIA	III	IIIA	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV
Capital Cost, MM$	1.7	5.7	2.1	7.4	1.5	-	1.8	1.8	1.7	4.9	5.2	1.7	1.1	1.2	.5	.6
Tolling Costs, Rank (1)	6	13	7	14	4	15	7	10	8	11	12	9	5	3	2	1
Degree of Risk	9	4	4	4	4	-	5	10	8	9	7	3	4	9	9	10
Liquid Waste Problem, Degree	5	5	5	6	6	-	5	10	8	9	5	5	7	7	7	7

Degree of Risk: 0 - None, 10 - Highest

Liquid Waste Problem: 0-None, 10 - Greatest

Case I - 60 TSD train at Dominguez, gas to #3, unabated, and #1.
Case II - 60 TSD train at Dominguez, gas to #3, abated.
Case IIA - Case II but #3 operated at 550 TSD and ICD assumes proportional share of abatement costs.
Case III - Maximum sludge train, Dominguez #3, abated.
Case IIIA - Case III but #3 operated at 550 TSD including burning 235.8 tons sludge. ICD assumes proportional share of abatement and sludge train.
Case IV. - Convert No. 3 to abated sludge plant - dropped - cost too high.
Case V. - As per Case I, but use existing No. 1 unit furnace for train, construct new furnace for No. 1.
Case VI. - Revise Martinez to operate on existing train.
Case VII. - Add a train to Martinez.
Case VIII. - Expand Units 1 and 2, Dominguez, revise existing train.
Case IX. - Expand Units 1a dn 2, Dominguez, add a train.
Case X. - 60 TSD train at Dominguez, No. 1. Back out alkylation, ship to Martinez.
Case XI. - Revise and sanitize Dominguez, No. 1. Back out alky, ship to Martinez.
Case XII. - Revise and sanitize Dominguez, No. 1. Send part of gas to No. 3 Unit.
Case XIII. - Revise and sanitize Dominguez, No. 2. Back out alky, ship to Martinez.
Case XIV. - Revise and sanitize Dominguez, No. 2. Send part of gas to No. 3 Unit.

(1) Sludge freight included. No. 1 is lowest tolling cost.

Note: Capital and tolling costs were estimated to sufficient accuracy to enable comparisons and are not suitable for other uses.

EGL/ajj

REVISED 8/29/75